(AMENDED)

#12

What is claimed:

8. A rotary piston continuous flow dynamic displacement expandable chamber device comprising a hollow toroid cylinder housing or stator with a smooth inner surface surrounding a rotor rotably mounted utilizing an attached balanced central shaft as a rotational axis, one or a plurality of balanced pistons mounted radially on said rotor within said cylinder, an intake port with means for the attachment of an obliquely mounted intake manifold or port housing, said oblique angle relative to part of the outside circumference of the toroid cylinder, a movable conformably shaped and sized valve mounted near the opening of said intake port, said expandable chamber formed between said rotor, piston, smooth inner surface of the toroid cylinder and the valve, said valve does not ever fully close off said intake port allowing for continuous flow yet functions to allow said piston to travel through while isolating the working fluid from a retrograde course to the exhaust port, said valve with means for controlling same so that as the revolutions increase and the load decreases the valve will start to assume a less obstructive position, from opening and closing completely to a kind of rhythmic flutter or waving in tune to the passing of the pistons and acting as a fluidic amplifier combining positive displacement with the dynamic effect until balance can be reached and maintained at which point the valve may attain a fully unobstructive position until the load increases or revolutions decrease for any reason

then the valve can readily re-engage as a fluidic amplifier or assume full range movement or operation as with all the valves in any embodiment of this invention they can be actuated by many means they can be spring loaded, cam and lever actuated with or without a controlling governor, electrically, pneumatically, hydraulically or mechanically actuated with electronic controls or other type controls including no external control also known as free acting cushioned fluidic action, as well as a form of direct contact or mechanical interaction between the moving piston back and the valve face utilizing rollers and guides or at the very least the piston can act directly on the valve pushing it out of the way, an exhaust port with means for obliquely angled attachment to said toroid cylinder or stator housing for evacuating the working fluid after it has been used.

9. A rotary piston continuous flow dynamic displacement expandable chamber device according to claim 8, wherein said pistons have a plurality of enhanced piston rings mounted in grooves of said pistons.

10. A rotary piston continuous flow dynamic displacement expandable chamber device according to claim 9, wherein said pistons and said toroid cylinder housing or stator are permanently bonded with a lubricant.

11. An internal continuous combustion engine comprising a rotary piston continuous flow dynamic displacement expandable chamber device having a hollow toroid cylinder housing or stator with a smooth inner surface surrounding a rotor rotably mounted utilizing an attached balanced central shaft as a rotational axis, one or a plurality of balanced pistons mounted radially on said rotor within said cylinder, an intake port with means for the attachment of an obliquely mounted intake manifold or port housing, said oblique angle relative to part of the outside circumference of the toroid cylinder, a movable conformably shaped and sized valve mounted near the opening of said intake port, said expandable chamber formed between said rotor, piston, smooth inner surface of the toroid cylinder and the valve, said valve does not ever fully close off said intake port allowing for continuous combustion flow yet functions to allow said piston to travel through while isolating the working fluid from a retrograde course to the exhaust port, said valve with means for controlling same so that as the revolutions increase and the load decreases the valve will start to assume a less obstructive position, from opening and closing completely to a kind of rhythmic flutter or waving in tune to the passing of the pistons and acting as a fluidic amplifier combining positive displacement with the dynamic effect until balance can be reached and maintained at which point the valve may attain a fully unobstructive position until the load increases or revolutions decrease for any reason then the valve can readily re-engage as a fluidic amplifier or assume full range movement or operation as with all the valves in any embodiment of this invention they can be actuated by many means they can be spring loaded, cam and lever actuated with or

without a controlling governor, electrically, pneumatically, hydraulically or mechanically actuated with electronic controls or other type controls including no external control also known as free acting cushioned fluidic action, as well as a form of direct contact or mechanical interaction between the moving piston back and the valve face utilizing rollers and guides or at the very least the piston can act directly on the valve pushing it out of the way, an exhaust port with means for obliquely angled attachment to said toroid cylinder or stator housing for evacuating the working fluid after it has been used, an intake port with means for the attachment of an obliquely mounted combustor or combustors relative to part of the outside circumference of said toroid cylinder containing inner reaction cages that produce controlled stratified flashover combustion a type of double oxidized concentric combustion, said combustor having the property of an instant two step passive compression process that is achieved by the novel design of its combustor and its inner reaction cage, reductions to its neck or nozzle and by the valve shield and diffuser of said combustor with means for supplying said combustor with fuel and air and means for igniting said mixture, said combustion providing both a pressurized force and an impinging or impacting force on said pistons, said impinging force and overall device efficiency enhanced by the design incorporating oblique angles, a movable conformably shaped and sized valve mounted near the opening of said combustor that functions to allow said piston to travel through while isolating the combustion gases from a retrograde course to said exhaust port.

12. A rotary piston internal continuous combustion dynamic displacement engine according to claim 11, wherein said pistons have a plurality of enhanced piston rings mounted in grooves of said pistons and said pistons have concave tops.

13. A rotary piston internal continuous combustion dynamic displacement engine according to claim 12, wherein said pistons and said toroid cylinder housing are permanently bonded with a heat insulating coating and permanently bonded lubricant.

14. A rotary piston internal continuous combustion dynamic displacement engine according to claim 11, wherein said toroid cylinder housing or stator has a means for attaching an exhaust manifold to said exhaust port, a means for a attaching an electro gas dynamic device to said exhaust manifold for the generation of electricity for use by the engine and for other uses.

15. A rotary piston internal continuous combustion dynamic displacement engine according to claim 11, wherein said toroid cylinder housing comprises water jackets and water cooling systems with means for attachment of steam extracting fittings and means for extracting steam from the process of cooling said engine and its components, utilizing said steam to aid in the process of power production either in the way of reintroduction of this steam into the combustor helping push the pistons or in a

separate isolated process and additional device that imparts power to the common central shaft with means for recovering said steam, cooling it, phase changing it back into liquid, circulating and reusing it.

16. A rotary steam or fluid engine comprising a rotary piston continuous flow dynamic displacement expandable chamber device having a hollow toroid cylinder housing or stator with a smooth inner surface surrounding a rotor rotably mounted utilizing an attached balanced central shaft as a rotational axis, one or a plurality of balanced pistons mounted radially on said rotor within said cylinder, an intake port with means for the attachment of an obliquely mounted intake manifold or port housing, said oblique angle relative to part of the outside circumference of the toroid cylinder, a movable conformably shaped and sized valve mounted near the opening of said intake port, said expandable chamber formed between said rotor, piston, smooth inner surface of the toroid cylinder and the valve, said valve does not ever fully close off said intake port allowing for continuous flow yet functions to allow said piston to travel through while isolating the working fluid from a retrograde course to the exhaust port, said valve with means for controlling same so that as the revolutions increase and the load decreases the valve will start to assume a less obstructive position, from opening and closing completely to a kind of rhythmic flutter or waving in tune to the passing of the pistons and acting as a fluidic amplifier combining positive displacement with the dynamic effect until balance can be reached and maintained at which point the

valve may attain a fully unobstructive position until the load increases or revolutions decrease for any reason then the valve can readily re-engage as a fluidic amplifier or assume full range movement or operation as with all the valves in any embodiment of this invention they can be actuated by many means they can be spring loaded, cam and lever actuated with or without a controlling governor, electrically, pneumatically, hydraulically or mechanically actuated with electronic controls or other type controls including including no external control also known as free acting cushioned fluidic action, as well as a form of direct contact or mechanical interaction between the moving piston back and the valve face utilizing rollers and guides or at the very least the piston can act directly on the valve pushing it out of the way, said intake port with means for the attachment of an obliquely mounted intake manifold relative to said toroid cylinder housing, said intake port on said cylinder housing or stator for the admission of steam or working fluid, providing both a pressurized force and an impinging or impacting force upon the tops of said pistons, said impinging force and overall device efficiency enhanced by oblique angles, thereby forcing the steam or working fluid to pressure and force the piston forward toward the exhaust port at which point the working fluid will exit the device and another piston will have moved up to the seal point within the toroid cylinder or housing and said process will be repeated imparting a continuous rotational action to the rotor, an exhaust port with means for obliquely angled attachment to said toroid cylinder or stator housing.

17. A rotary piston dynamic displacement steam or fluid engine according to claim 16, wherein said pistons have a plurality of enhanced piston rings mounted in grooves of said pistons.

18. A rotary piston dynamic displacement steam or fluid engine according to claim 16, wherein said toroid cylinder housing and pistons are permanently bonded with a heat insulating coating and permanently bonded lubricant.

19. A rotary piston dynamic displacement steam or fluid engine according to claim 16, with means for recovering used steam, cooling it and phase changing it back into liquid, circulating and reusing it.

20. A rotary fluid metering apparatus comprising a rotary piston continuous flow dynamic displacement expandable chamber device having a hollow toroid cylinder housing or stator with a smooth inner surface surrounding a rotor rotably mounted utilizing an attached balanced central shaft as a rotational axis, one or a plurality of balanced pistons mounted radially on said rotor within said cylinder, an intake port with means for the attachment of an obliquely mounted intake manifold or port housing said oblique angle relative to part of the outside circumference of the toroid cylinder, a movable conformably shaped and sized valve mounted near the opening of said intake port, said expandable chamber formed between said rotor, piston, smooth inner surface of the toroid cylinder and the valve,

said intake port on said cylinder housing or stator for the admission of fluid utilizing the fluids pressure into an expandable chamber of measured or predetermined volume limited by the action of said conformably shaped valve providing both a pressurized force and an impinging or impacting force upon the tops of said pistons, said impinging force and overall device efficiency aided by oblique angles, said valve having the movement and function as to allow the revolving pistons through yet isolate the fluid and preventing it from a retrograde course out the adjacent exhaust port and with means for controlling said valve so that as the revolutions increase and the load decreases the valve will start to assume a less obstructive position, from opening and closing completely to a kind of rhythmic flutter or waving in tune to the passing of the pistons acting as a fluidic amplifier combining positive displacement with the dynamic effect until balance can be reached and maintained at which point the valve may attain a fully unobstructive position until the load increases or revolutions decrease for any reason then the valve can readily re-engage as a fluidic amplifier or assume full range movement or operation as with all the valves in any embodiment of this invention they can be actuated by many means they can be spring loaded, cam and lever actuated with or without a controlling governor, electrically, pneumatically, hydraulically or mechanically actuated with electronic controls or other type controls including no external control also known as free acting cushioned fluidic action, as well as a form of direct contact or mechanical interaction between the moving piston back and the valve face utilizing rollers and guides or at the very least the piston can act directly on the valve pushing

it out of the way thereby forcing said piston forward in a measured volume and out the exhaust port, whereby allowing said device to meter, measure or dispense specific units of measured volumes of fluid at either a very fast or slow rate in very large or small quantities.

21. A rotary piston expandable chamber dynamic displacement fluid metering device according to claim 20, wherein said pistons have a plurality of enhanced piston rings mounted in grooves of said pistons.

22. A rotary piston expandable chamber dynamic displacement fluid metering device according to claim 20, wherein said pistons and said toroid cylinder housing are permanently bonded with a heat insulating coating and permanently bonded lubricant.

23. A rotary piston expandable chamber dynamic displacement fluid metering device according to claim 20, wherein said device has means for the attachment and use of a counting apparatus.

24. A rotary power assist apparatus comprising a rotary piston continuous flow dynamic displacement expandable chamber device having a hollow toroid cylinder housing or stator with a smooth inner surface surrounding a rotor rotably mounted utilizing an attached powered balanced central shaft as a rotational axis, one or a plurality of balanced pistons mounted

radially on said rotor within said cylinder, an intake port with means for the attachment of an obliquely mounted intake manifold or port housing, said oblique angle relative to part of the outside circumference of the toroid cylinder, a movable conformably shaped and sized valve mounted near the opening of said intake port, said expandable chamber formed between said rotor, piston, smooth inner surface of the toroid cylinder and the valve, said intake port on said cylinder housing or stator for the admission of working fluid into said obliquely angled intake port housing or manifold providing both a pressurized force and an impinging or impacting force upon the tops of said pistons, said impinging force and overall device efficiency aided by oblique angles, said volume limited by the action of said conformably shaped valve said valve having the movement and function as to allow the revolving pistons through yet isolate the fluid and preventing it from a retrograde course out the adjacent exhaust port and with means for controlling said valve so that as the revolutions increase and the load decreases the valve will start to assume a less obstructive position, from opening and closing completely to a kind of rhythmic flutter or waving in tune to the passing of the pistons acting as a fluidic amplifier combining positive displacement with the dynamic effect until balance can be reached and maintained at which point the valve may attain a fully unobstructive position until the load increases or revolutions decrease for any reason then the valve can readily re-engage as a fluidic amplifier or assume full range movement or operation as with all the valves in any embodiment of this invention they can be actuated by many means they can be spring loaded, cam and lever actuated with or without a

controlling governor, electrically, pneumatically, hydraulically or mechanically actuated with electronic controls or other type controls including no external control also known as free acting cushioned fluidic action, as well as a form of direct contact or mechanical interaction between the moving piston back and the valve face utilizing rollers and guides or at the very least the piston can act directly on the valve pushing it out of the way whereby forcing the piston forward by imparting pressure to said piston until it reaches the exhaust port thereby turning said central shaft or crankshaft.

25. A rotary piston dynamic displacement power assist device according to claim 24, wherein said pistons are grooved and have sealing rings.

26. A rotary piston dynamic displacement power assist device according to claim 24, wherein said pistons and said toroid cylinder housing are permanently bonded with a lubricant.

27. A dynamic displacement hydraulic pump comprising a rotary piston continuous flow dynamic displacement expandable chamber device having a hollow toroid cylinder housing or stator with a smooth inner surface surrounding a rotor rotably mounted utilizing an attached powered balanced central shaft as a rotational axis, one or a plurality of balanced pistons mounted radially on said rotor within said cylinder, an intake port with means for the attachment of an obliquely mounted intake manifold or

port housing said oblique angle relative to part of the outside circumference of the toroid cylinder, a movable conformably shaped and sized valve mounted near the opening of said intake port, said expandable chamber formed between said rotor, piston, smooth inner surface of the toroid cylinder and the valve, said port being within the intake port housing, overall device efficiency aided by oblique angles, said valve or valves having the movement and function as to allow the revolving pistons through yet isolate the hydraulic or working fluid and preventing it from a retrograde course out the adjacent exhaust port and with means for controlling said valve so that as the revolutions increase and the load decreases the valve will start to assume a less obstructive position, from opening and closing completely to a kind of rhythmic flutter or waving in tune to the passing of the pistons acting as a fluidic amplifier combining positive displacement with the dynamic effect until balance can be reached and maintained at which point the valve may attain a fully unobstructive position until the load increases or revolutions decrease for any reason then the valve can readily re-engage as a fluidic amplifier or assume full range movement or operation as with all the valves in any embodiment of this invention they can be actuated by many means they can be spring loaded, cam and lever actuated with or without a controlling governor, electrically, pneumatically, hydraulically or mechanically actuated with electronic controls or other type controls including no external control also known as free acting cushioned fluidic action, as well as a form of direct contact or mechanical interaction between the moving piston back and the valve face utilizing rollers and guides or at the very

least the piston can act directly on the valve pushing it out of the way thereby forcing said hydraulic or working fluid to be pushed , pressured or forced by the piston forward toward the exhaust port at which point the working fluid will exit the device and another piston will have moved up to the seal point within the toroid cylinder or housing and said process will be repeated imparting a continuous fluid flow, whereby allowing said device to pump specific units of measured volumes of fluid at either a very fast or slow rate in very large or small quantities.

28. A rotary piston dynamic displacement hydraulic pump according to claim 27, wherein said pistons have a plurality of enhanced piston rings mounted in grooves of said pistons.

29. A rotary piston dynamic displacement hydraulic pump according to claim 27, wherein said pistons and said toroid cylinder housing are permanently bonded with a heat insulating coating and permanently bonded lubricant.

30. A bio-fluid or heart pump made of an inert unbioreactive material comprising a rotary piston continuous flow dynamic displacement expandable chamber device having a hollow toroid cylinder housing or stator with a smooth inner surface, a rotor rotably mounted utilizing an attached powered balanced central shaft as a rotational axis, one or a plurality of balanced pistons mounted radially on said rotor within said cylinder, an intake port with means for the attachment of an obliquely

mounted intake manifold or port housing, said oblique angle relative to part of the outside circumference of the toroid cylinder, a movable conformably shaped and sized valve mounted near the opening of said intake port, said expandable chamber formed between said rotor, piston, smooth inner surface of the toroid cylinder and the valve, said intake port on said cylinder housing or stator for the admission of bio-fluid, blood, etcetera, said obliquely angled intake housing for reducing bio-fluid turbulence, with means for attachment to said toroid stator or housing, a conformably shaped valve or valves mounted near the intake port, said port being within said intake port housing, said valve or valves having the movement and function as to allow the revolving pistons through yet isolate the bio-fluid and preventing it from a retrograde course out the adjacent obliquely angled exhaust port and with means for controlling said valve so that as the revolutions increase and the load decreases the valve will start to assume a less obstructive position, from opening and closing completely to a kind of rhythmic flutter or waving in tune to the passing of the pistons acting as a fluidic amplifier combining positive displacement with the dynamic effect until balance can be reached and maintained at which point the valve may attain a fully unobstructive position until the load increases or revolutions decrease for any reason then the valve can readily re-engage as a fluidic amplifier or assume full range movement or operation as with all the valves in any embodiment of this invention they can be actuated by many means they can be spring loaded, cam and lever actuated with or without a controlling governor, electrically, pneumatically, hydraulically or mechanically actuated with

electronic controls or other type controls including no external control also known as free acting cushioned fluidic action as well as a form of direct contact or mechanical interaction between the moving piston back and the valve face or at the very least the piston can act directly on the valve pushing it out of the way thereby forcing said bio-fluid to be pushed or forced gently by the piston forward toward the said exhaust port at which point the bio-fluid will exit the device and another or the same piston will have moved up to the dynamic seal point within the toroid cylinder or housing and said process will be repeated imparting a continuous smooth bio-fluid flow without undue bio-fluid agitation whereby allowing said device to pump bio-fluids at a very fast rate in large volumes or a lower rate according to the needs of the body at the moment yet minimizing the effects of agitation on these fluids.

31. A rotary piston expandable chamber dynamic displacement bio-fluid or heart pump according to claim 30, wherein said pistons have one or a plurality of enhanced piston rings mounted in grooves of said pistons.

32. A rotary piston expandable chamber dynamic displacement bio-fluid or heart pump according to claim 30, wherein said pistons and said toroid cylinder housing or stator are permanently bonded with an inert or unbioreactive lubricant.

33. A rotary piston expandable chamber dynamic displacement bio-fluid or heart pump according to claim 30, wherein said pump has means for detecting and controlling the body's need for variations in fluid flow.

34. A rotary air pump comprising a rotary piston continuous flow dynamic displacement expandable chamber device having a hollow toroid cylinder housing or stator with a smooth inner surface surrounding a rotor rotably mounted utilizing an attached powered balanced central shaft as a rotational axis, one or a plurality of balanced pistons mounted radially on said rotor within said cylinder, an intake port with means for the attachment of an obliquely mounted intake manifold or port housing, said oblique angle relative to part of the outside circumference of the toroid cylinder, a movable conformably shaped and sized valve mounted near the opening of said intake port, said expandable chamber formed between said rotor, piston, smooth inner surface of the toroid cylinder and the valve, said intake port on said cylinder housing or stator for the admission of air, gas or working fluid, said valve or valves having the movement and function as to allow the revolving pistons through yet isolate the air, gas or working fluid and preventing it from a retrograde course out the adjacent exhaust port and with means for controlling said valve so that as the revolutions increase and the load decreases the valve will start to assume a less obstructive position, from opening and closing completely to a kind of rhythmic flutter or waving in tune to the passing of the pistons acting as a fluidic amplifier combining positive displacement with the dynamic effect

until balance can be reached and maintained at which point the valve may attain a fully unobstructive position until the load increases or revolutions decrease for any reason then the valve can readily re-engage as a fluidic amplifier or assume full range movement or operation as with all the valves in any embodiment of this invention they can be actuated by many means they can be spring loaded, cam and lever actuated with or without a controlling governor, electrically, pneumatically, hydraulically or mechanically actuated with electronic controls or other type controls including no external control also known as free acting cushioned fluidic action, as well as a form of direct contact or mechanical interaction between the moving piston back and the valve face utilizing rollers and guides or at the very least the piston can act directly on the valve pushing it out of the way thereby forcing said air, gas or working fluid to be pushed, pressured or forced by the piston forward toward the exhaust port at which point the air, gas or working fluid will exit the device and another piston will have moved up to the seal point within the toroid cylinder or housing and said process will be repeated imparting a continuous air, gas or working fluid flow whereby said device may pump very large volumes of air at a very fast rate or very small amounts at a relatively slow rate making this device very flexible in its abilities to handle varied capacities.

35. A rotary piston expandable chamber dynamic displacement air pump according to claim 34, wherein said pistons have one or a plurality of piston rings.

36. A rotary piston expandable chamber dynamic displacement air pump according to claim 34, wherein said pistons and said toroid cylinder housing are permanently bonded with a lubricant.